

1 Testimony of Patrick K. McAuliffe
2 REDACTED

3
4 May 22, 2001
5

6 **I. Introduction and Summary**

7 My name is Patrick K. McAuliffe. I am a Market Analyst with the California
8 Electricity Oversight Board. As set forth in my resume, attached, I have studied and
9 analyzed data concerning the functioning of the bulk electric power industry in California
10 and the western United States in a professional capacity for 15 years.

11 The purpose of my testimony is to present my conclusions concerning the
12 potential impacts of the Federal Energy Regulatory Commission's April 26, 2001 Order
13 Establishing Prospective Mitigation and Monitoring Plan and Establishing an
14 Investigation of Public Utility Rates in Wholesale Western Energy Markets, 93 FERC¶
15 61,115. Specifically, I make the following findings:

- 16 • The potential size of the market subject to price mitigation (based on analysis of
17 CAISO's real-time imbalance energy market or "BEEP" (Balancing Energy and
18 Ex-post Price) market from January to March 2001) is very small, less than 2% of
19 the number of MWhs purchased to meet demand.
- 20 • Prices can be and often are very high even when the CAISO is not in condition 1,
21 2 or 3 emergency conditions.
- 22 • Many generating units in California and the WSCC are not subject to potential
23 mitigation.
- 24
25

II. The potential size of the market subject to price mitigation is very small

The Commission requires the CAISO to establish a market clearing proxy price for its real-time markets that would set the clearing price during periods of reserve deficiency when reserves are 7.5 percent or less. Although, at one time, this might have affected a considerable quantity of transactions¹, the CAISO's real-time market has diminished in size to almost inconsequential levels since January 2001. Table 1 provides a summary of data obtained by the Electricity Oversight Board under subpoena from the ISO for Balancing Energy and Ex-post Price (BEEP) purchases, i.e. the CAISO's real-time market, and includes a comparison of these purchases to CAISO Actual System Load, including BEEP as a percentage of ISO actual load. These data are provided by month from January to March 2001.

Table 1—BEEP Purchases by Month

| Month | BEEP (MWh) | ISO Actual Load (MWh) | BEEP as % of Actual ISO Load |
|---------------|------------|-----------------------|------------------------------|
| January 2001 | | | 4.4% |
| February 2001 | | | 4.5% |
| March 2001 | | | 1.4% |

As the table indicates, the volume in the BEEP market, the only market that is subject to price mitigation, comprises only 1.4% of the actual ISO load in March 2001. Moreover, this percentage is not adjusted to reflect emergency conditions, when capacity was below 7 %. That analysis follows the discussion of Table 2.

¹ For example, in November 2000 the volume traded in the Day Ahead Power Exchange market was 15,052,641 MWh and the volume in BEEP was 1,371,380 MWh. Actual CAISO load for this month was 18,656,434 MWh.

Table 2 provides additional details regarding the size of the BEEP market. These data (in MWh) are provided by month from January to March 2001 under various CAISO system conditions. These conditions include times of no emergencies, where operating reserve remains above 7%, and times of Stage 1, 2, and 3 emergencies, consistent with the CAISO's definitions of these conditions.

Table 2 - MWh Traded in BEEP relative to ISO System Condition

| Month | No Emergencies | Stage 1 | Stage 2 | Stage 3 | Totals |
|---------------|----------------|---------|---------|---------|--------|
| January 2001 | | | | | |
| February 2001 | | | | | |
| March 2001 | | | | | |

In March 2001 the size of the BEEP market subject to potential price mitigation had the FERC order been in effect in March 2001 decreases to 0.3% REDACTED the transaction volume in all California markets².

It has been publicly reported that the purchases being made by the state of California to cover the net short position costs about \$ 50 million or more per day or \$1.5 Billion per month. The net short position of the utilities is estimated to be 30% to 40% of the total ISO load. I estimate that the total cost of serving the ISO's load is on the order of \$ 3 billion per month. Table 3 provides the costs of energy purchased under various system conditions in the month of January thru March 2001.

² The current definition of a Stage 1 emergency used by the CAISO differs from the 7.5% criterion included in the Order. However, in my analysis I have used the CAISO's definition and data regarding system conditions.

Table 3 - Estimated Cost of BEEP Purchases

| Month | No Emergencies | Stage 1 | Stage 2 | Stage 3 | Totals |
|---------------|----------------|---------|---------|---------|--------|
| January 2001 | | | | | |
| February 2001 | | | | | |
| March 2001 | | | | | |

Adding up totals for Stage 1, 2 and 3 conditions, the total cost of purchases subject to any potential refund for March 2001 is only \$21 million REDACTED figure does not reflect the second element of the Commission's price mitigation plan—the use of the proxy price. Since the Oversight Board does not have data necessary to establish proxy prices that would have applied for January, February and March (assuming the April 26 Order had been in effect), I offer the following comparison using the rate screen in effect for March 2001 of \$300. Using the \$300 rate screen, the total amount of potential refunds would be reduced to only \$4.1 million³ for the entire month of March. This figure is a tiny percentage of the estimated \$3 billion total market for the month of March.

III. Prices can be, and are, very high even when the CAISO is not in emergency conditions

The Commission's mitigation measures appear to be based on the assumption that prices only increase to high levels when the CAISO experiences emergency conditions, or, conversely, that except in emergency conditions, there is sufficient supply so that competition can be relied upon to keep prices low. These assumptions are not borne out

³ I derive this figure by multiplying the volume traded in March in each system condition by the average price in each condition less the price screen of \$ 300 per MWh.

by the facts. Table 4 provides the average price of BEEP purchases⁴ from January to March in the BEEP market. The table is divided according to the system condition on the CAISO grid.

Table 4 - Average Price of BEEP Purchases (\$/MWh)

| Month | No Emergencies | Stage 1 | Stage 2 | Stage 3 |
|---------------|----------------|---------|---------|---------|
| January 2001 | | | | |
| February 2001 | | | | |
| March 2001 | | | | |

In January 2001 average BEEP prices do increase as the CAISO falls further into emergency stages, that is, as the CAISO goes from Stage 1 to Stage 3 emergency conditions. However, in March 2001 this relationship no longer is evident as average prices are the highest when the CAISO is not in emergency conditions. Given the market mitigation method proposed in this Order, none of the purchases made when the CAISO was not in an emergency condition would be subject to price mitigation, even though these purchases cost more on average than those made during system emergency conditions.

IV. Many generating units in California and the WSCC are not subject to potential price mitigation

Although the “Commission will require those generators with PGAs to offer the CAISO all of their capacity in real time during all hours if it is available and not already scheduled to run through bilateral agreements” (at page 10), hydroelectric generation will

⁴ The average price is weighted by volume. That is, the price paid times the MWh purchased (limited to incremental MWh purchased) is calculated and then the sum of the costs is divided by the sum of the volume.

1 be exempt from this requirement. Table 5 provides a listing of capacity by type of
2 generation.

3 **Table 5 - Capacity Rating of Generation (in MW)⁵**

| Generation Type | California and Mexico | WSCC |
|---|-----------------------|----------------|
| | | |
| Hydroelectric | 12,730 | 65,279 |
| Steam | 22,337 | 60,711 |
| Nuclear | 4,310 | 9,213 |
| | | |
| Combustion Turbine/Combined Cycle | 4,731 | 12,963 |
| All Other | 8,546 | 10,338 |
| | | |
| Total | 52,654 | 158,504 |

4

5 Note that 24% of the capacity in California and Mexico (the applicable Western
6 System Coordinating Council region) will be exempt from this requirement. Also, note
7 that 41% of all capacity in the WSCC is hydroelectric, including both conventional and
8 pumped storage unit. While it may be wise to exclude hydro facilities from any
9 availability requirement, a mitigation measure, to be successful, must apply more broadly
10 especially during high load conditions when most of the generation will be needed.

11

12 This concludes my testimony.

⁵ Data as of 1/1/2000 and taken from WSCC Planning and Operation for Electric System Reliability, page 6 (with modification to categories by EOB staff).